POPULATION TODAY

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FEATURES

3 Thailand's achievement
A momentous fertility-reduction success story is unfolding in this Asian country

4 World Bank renews population concerns
"It is imperative," says Bank president Barber Conable, "that developing countries. . . expand efforts to limit population growth"

5 U.S. households diversify
Not only that, they're shrinking, too—down to 2.64 persons in 1988, Census survey reports

5 Miscellaneous news from the Census Bureau
Data price-rise threatened, Dymally bill dies

6 A tale of two states
The Bay State and the Beehive State—two different TFRs, two very different population futures

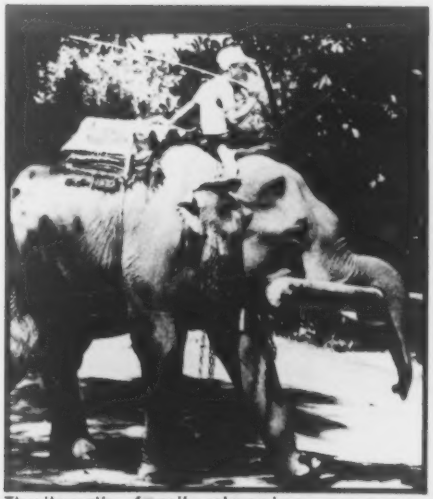
8 Paper your wall with numbers!
The latest population wall charts from all over

9 A year of droughts and floods
And despite better weather, food production per capita continues to fall in Africa

12 Only 2 percent of Rwanda's women use modern contraception
East African country's mortality has declined, while fertility is 8.6 children per woman

DEPARTMENTS

2 From the editor's desk
2 Speaking graphically
3 Survey report (Thailand)
6 Demographer's page
9 Software
9 Population update
10 Take a number
10 Positions/professionals
11 Current readings
12 Spotlight (Rwanda)



FAO photo/F. Botts

Thailand's family-planning program marches on. (See page 3.)

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FROM THE EDITOR'S DESK

"The Asian Century" – that's how a spate of recent books have dubbed the 21st Century, now only 12 years away (13 years away for purists who consider '01 to be the bona fide beginning of any century).

This title may well describe the economic state of the world, due to the Pacific Rim's booming development. But insofar as population magnitude is concerned, the graph below tells a different story.

In schematic form, it shows each continent's relative proportions of world population between 1400 and 2200. What it reveals is that from Antiquity up to the present, *every* century has been the Asian Century. By comparison, Europe, the Americas, and Africa have been supernumeraries on history's population stage.

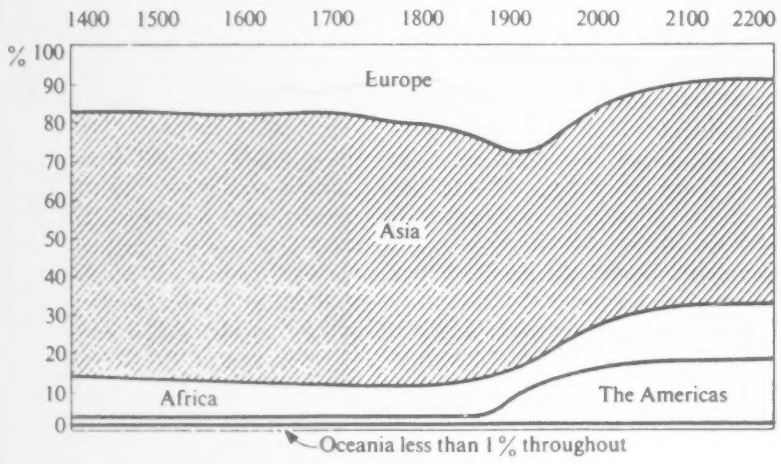
The chief population events of the past 500 years have been European boom times, sustained by economic expansion and innovation, the establishment of large numbers of people in the Americas, the long transition toward low fertility in the more developed countries, and the 20th century population explosion in the less developed world. Effects of these trends are highly visible in the graph.

What about the world's future? The trend lines plotted below project an unprecedented diversification of world population across continents (thanks largely to Asia's family planning lead among less developed countries). One possible result could be that a couple of generations hence, pundits will vocally predict the 23rd Century to mark the start of the African Century or the Latin American Century. You watch.

– Art Haupt

SPEAKING GRAPHICALLY

Population by Continent, 1400–2200



This schematic "population history" of the world is reproduced with permission from Colin McEvedy and Richard Jones's *Atlas of World Population History* (1978), published by Penguin. It may differ slightly from more detailed and recent projections, but the broad story remains the same. The drop in Asian and Latin American fertility (at 3.6 and 3.7 average lifetime children per woman, respectively) will mean slowing growth in these continents, while Africa's higher fertility (6.3 average children) will tend to increase that continent's proportion of world population in coming decades.

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Thai Fertility Falls Toward MDC Levels

Thailand's fertility decline, which began in the 1960s, has continued through the 1980s without fanfare or letup, according to recent survey results from that Southeast Asian country of 55 million people.

Due to widespread use of contraception, national fertility now registers figures near those of more developed countries (MDCs). As a result, Thailand may well rank fourth-lowest in fertility among major countries of the Third World – after Cuba, China and South Korea.

The 1987 Demographic and Health Survey (DHS) results suggested that the country's total fertility rate (TFR) may be as low as 2.4 children per woman on average, with about 65.5 percent of the married women of reproductive age (age 15 to 49) practicing contraception. The 2.4 figure, if correct, would mean that Thai fertility was within hailing distance of replacement level (approximately 2.1 children per woman).

The survey, part of the Demographic and Health Survey project coordinated by the Institute for Resource Development of Westinghouse in Columbia, Md., also collected valuable information about the health of young children and mothers, including illnesses, physical growth of children, and use of medical care. A total of 6,775 ever-married women aged 15 to 49 were interviewed for the study, and 1,849 children between 3 and 36 months of age were weighed and measured to study age-appropriate physical growth.

Thailand has been a leader in the family planning movement since the 1960s, principally as a result of the efforts of its energetic National Family Planning Program. International organizations like the IPPF contributed to the availability of methods and knowledge about family planning.

Between 1969 and 1984, contraceptive use expanded from 15 to 65 percent of married women 15 to 44 years of age. Fertility dropped from a 6-child average to just above 3 children per woman during those years.

Fertility continued to fall; Thai culture apparently encourages shifts in family size to adjust to changing social conditions. While the 1984 Contraceptive Prevalence Survey (CPS) survey hinted of a stall in fertility decline – showing a TFR of 3.4 for 1982 to 1984, other research results show no evidence that any such stall took place. The DHS data for the same period measured a TFR of only 2.6.

The DHS, according to John Knodel, one of the principal investigators of the study, "probably underestimates the TFR, but not by a lot," adding that it was definitely well below 3 children per family.

SPECIAL SURVEY REPORT

Underlying Knodel's assertion are preliminary results from a national Survey of Population Change (SPC), which used a two-record methodology. This SPC shows a TFR of 2.7 for the 1985-1986 period. Also, the TFR based on births registered by the national vital statistics system declined 20 percent between 1981-1983 and 1985-1986. Although some small proportion of annual births are never registered, there is reason to believe that the drop in the rate reflects a real downward trend in fertility.

In previous decades, women in rural areas of Thailand have had much higher fertility than urban women. The DHS shows that some of these differentials are narrowing. Fertility in rural areas dropped further than in the urban areas, dominated by Bangkok. For the five years preceding the survey, rural women had a TFR of 2.6, while for the two years preceding the DHS, the rural TFR was 2.4. The urban TFR was 1.7 for both periods.

The considerable urban-rural difference in TFR is striking, particularly in light of the similar levels of contraceptive use found among urban and rural married women aged 15-44 (67.8 percent and 65 percent, respectively). Further examination by the DHS report's co-authors (Napaporn Chayovan, Peerasit Kamnuansilpa, and Knodel) has determined that the rural-urban difference in TFR is entirely attributable to the lower proportion of urban women in the reproductive ages who are married. Marital fertility of urban and rural women is almost identical.

Women were asked whether they wanted more children, and how many more they would like to have, in part to assess the unmet need for family

Continued on next page

IPPF photo/ Kennedy

Thai families are getting to be half the size they used to be.

Thai Fertility

Continued from preceding page

planning services. On average, one-third of the currently married women wanted more children, regardless of urban/rural residence or education. The preferred number of children was 2.8, ranging from 3.5 for women with no education to 2.3 for women with a secondary level education.

Thailand has one of the highest levels of contraceptive use in the world, about equal to that of the U.S. and many European countries. Modern, effective methods account for almost all of the family planning practiced here. For married women 15 to 49 years of age, the most popular methods are the pill (19 percent of this group), sterilization (29 percent), and injections (9 percent). A traditional method like withdrawal or periodic abstinence is used by less than 2 percent.

Compared with earlier surveys, the DHS revealed an increase in the use of injections and the IUD, and a slight increase in male sterilization. However, with almost one-third of the women aged 30 to 44 sterilized, this is clearly the primary method for Thai women who want to cease childbearing.

The DHS also provides some interesting estimates of the infant mortality rate (IMR). As with fertility, the survey may slightly underestimate mortality. It does show that an infant's survival chances decrease the older the infant's mother is, if there are 3 or more siblings, or if the infant is born less than two years after another birth. The DHS estimates Thailand's IMR at 38 deaths per 1,000 births for 1977-1987, which is lower than an estimated IMR of 41 from the 1985-1986 Survey of Population Change.

The DHS also gives some encouraging news about the health of Thai children. Although not quite reaching the national goal of universal immunization, the DHS results indicate that over 80 percent of the children have received at least one vaccination.

Thailand's National Family Planning Program is the major source of the country's contraceptive supply. Even if the above results are taken cautiously, the Program surely must stand as one of the world's most effective.

— M.K.

World Bank's Conable Voices Concern over Population Growth Effects

"It is imperative that developing countries renew and expand efforts to limit population growth," states World Bank President Barber Conable. "Population issues will be prominent in our dialogue with governments . . . We are financing health and safe motherhood programs, and we will expand our direct support for family-related activities."

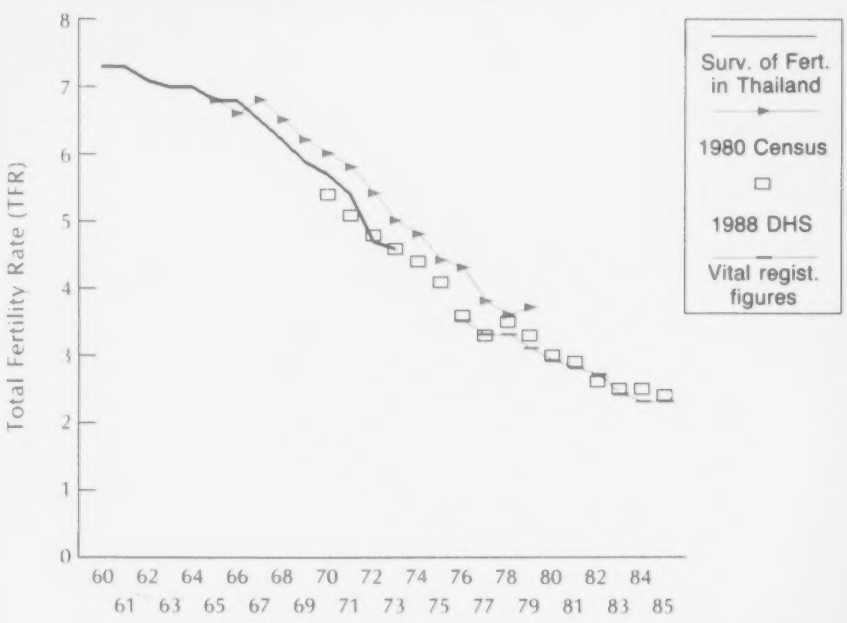
The Bank's new emphasis on population and environmental issues in its attack on poverty was outlined in Conable's Sept. 27 speech in West Berlin at the joint annual meetings of the World Bank and the International Monetary Fund. Conable, in his second year as Bank President, noted that "many countries will double their already large populations early in the next century." He acknowledged "that population policy touches upon sensitive cultural and religious values" but that rapid population growth means "many – perhaps most – of these new lives will be miserable, malnourished and brief. With today's population growth rates, badly-needed improvements in living standards cannot be achieved, public resources for necessary services are over-stretched, and the environment is severely damaged.

"Given the magnitude and severity of the problem," he continues "it is alarming that many governments are failing to implement sensible population policies. It is also distressing that international assistance for population activities has declined. These trends must be reversed."

The Bank's antipoverty effort must concentrate on "securing economic growth; combatting hunger; curbing excessive population growth; investing in education; and protecting the interests of the poor during the process of economic adjustment."

— R.Y.

Thai Total Fertility Rate Falling



Source: *Thailand Demographic and Health Survey 1987.*

U.S. Households Diversify and Shrink

The "traditional" U.S. family continues to yield ground, as the spectrum of American households continues to diversify, according to an advance report of the latest Census Bureau population survey, conducted in March 1988.

Among other things, the Bureau's survey, which involved 57,000 interviews, shows that for the first time, there are now more families without children at home – 33.2 million – than there are with children at home – 31.9 million.

A household is comprised of a person or persons who occupy a housing unit. The Census Bureau recognizes two categories of households: family (a householder and one or more of his/her family members related through blood, marriage, or adoption) and nonfamily (a householder living alone or with persons not related to him/her). As the table shows, the great majority – 84 percent – of nonfamily households consists of people living alone.

In this latest survey, 71.5 percent of households were family. This figure has slowly but steadily dropped in the U.S.; 20 years ago it stood at 82.2 percent.

Household size is also continuing to drop, as fertility falls and the proportion of nonfamily households grows. Population per household now stands at a record low of 2.64 persons, as compared to 3.20 some 20 years ago. Concomitantly, the number of households continues to increase at a faster rate (by 13 percent from 1980 to 1988, though this is a significantly lower percentage increase than for the similar period 1970-1978). Households grew by 1.6 million between 1987 and 1988 (population during the same period grew by roughly 2.2 million, but each new household, of course, contains on average more than one person).

Finally, the number of unmarried couple households (persons of opposite sex sharing living quarters, or POSSLQs) continues to rise. Whereas in 1970 there were an estimated 523,000 such households, comprising 0.8 percent of all households, today there are 2.6 million unmarried couple households, or 2.8 percent of U.S. households.

– *A.H.*

USDA/ J. Deland

Only 2.64 people under each average roof.

The 1988 U.S. Household in a Nutshell

Group	No. (in 000s)	Percent of all households
Total households	91,066	100.0
Family households	65,133	71.5
Married-couple family	51,809	56.9
Other family, male householder	2,715	3.0
Other family, female householder	10,608	11.6
Nonfamily households	25,933	28.5
Male householder	11,310	12.4
Female householder	14,624	16.1
Living alone	21,889	24.0
Male	8,788	9.7
Female	13,101	14.4

Source. Current Population Reports, P-20, No. 432.

Data Price Increase on Hold

For the moment, the news is: There's no news on new pricing for the U.S. Census Bureau's electronic data products.

In early October, the White House's Office of Management and Budget had requested that the Bureau multiply the price of data products by five times. That is, a data tape that now sells for $175 would henceforth go for $875.

Although the price increase may have sounded like an attempt to adjust user fees to better reflect production costs, in fact the excess monies were to be transferred to the U.S. Treasury, not kept by the Bureau.

However, just as it was about to be implemented, the new pricing plan was shelved. On the morning of Oct. 11, Census sales employees were intercepted in office hallways by their supervisors and told not to inaugurate the new prices.

Meanwhile, on Sept. 28, the so-called Dymally Bill (H.R. 3511), named for Rep. Mervyn Dymally (D-Calif.), went down to defeat in the House Committee on Post Office and Civil Service by a vote of 11 to 10. It would have compelled the Census Bureau to adjust its decennial census figures to reflect those missed in the count. But amendments requiring that the Census Bureau exclude all illegal aliens from the figures used to reapportion Congress caused many members who might have otherwise voted for it to vote nay – including those who believed in undercount adjustment.

– *A.H.*

DEMOGRAPHER'S PAGE

A Tale of Two States

by Carl Haub

Second only in popularity to the U.S. postwar baby boom, the rapid growth of the country's "Sun Belt" states has been often documented in press stories and journal articles. Typically, the emphasis is on migration – and with good reason. From 1980 to 1987, the South and West experienced a net inflow of over 7 million persons from other states and overseas. For the Frost Belt and Rust Belt states to the north, the situation was reversed as these states lost 2.5 million population as a result of migration.

Thus, when changes in state populations are considered, migration is the first, and often only, factor which springs to mind. It often provides the most dramatic source of population change as traditional industries wane in one part of the country even as new employment centers rise in others. Lost in the shuffle is the equally powerful force of natural increase, the result of the interplay between the birth and death rate. It is here, however, that the differences in state population futures become quite interesting.

The year-to-year change in a state's population size is, of course, a consequence of the annual excess of births over deaths as well as its net gain or loss via migration. The latter is far more volatile than the former and for that reason is unquestionably seen as more newsworthy. The closing of a military base can cause a sudden outflow of population, as happened in Rhode Island in the 1970s, or the fortunes of a major industry, such as coal mining in West Virginia or oil in Texas, can cause sharp reverses in a state's in flow or outflow of residents.

Births Minus Deaths Equals Natural Increase

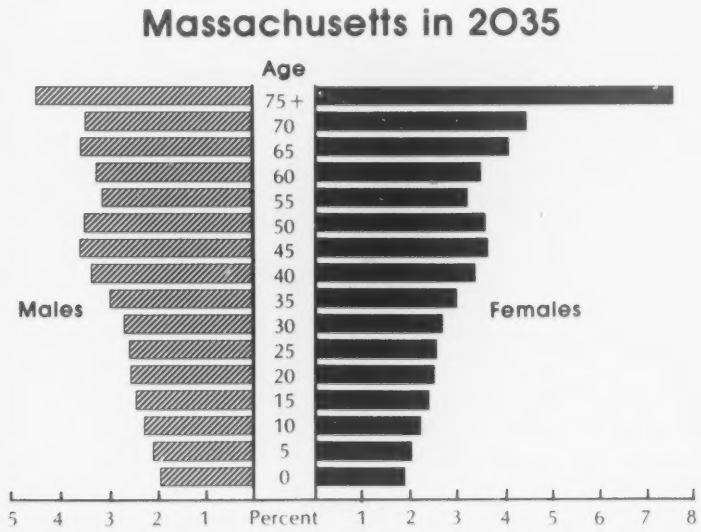
Soon, however, we can expect to see natural increase and decrease grab some of the limelight from migration. Natural increase is often overlooked as a component of state change, perhaps because no state has ever declined as a result of more annual deaths than births. At least, not yet.

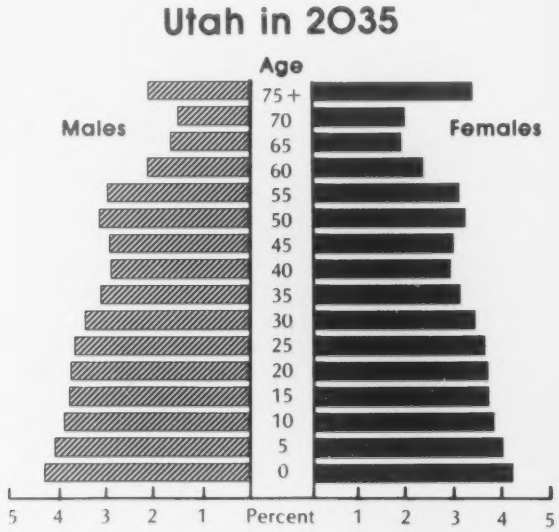
It is well known that fertility in the U.S. has been below the "replacement level" for some time. In 1987, the total fertility rate (TFR) stood at 1.88 children per woman, meaning that, at that rate, couples will not "replace" themselves and the population will ultimately enter a period of natural *decrease* as deaths begin to outnumber births.

The Census Bureau's projections indicate that such a situation would be reached sometime around 2030 or 2035, assuming a continuance of low fertility. Immigration would, for a time, offset the amount of natural decrease, but eventually, the population as a whole will actually begin to shrink.

Perhaps we tend to forget that this population decline will not occur simultaneously from coast to coast. Certain states will lead the period of decline by a considerable margin. Some may *never* get there. This will certainly be big news in the affected states.

The natural increase/decrease factor can be a more persistent factor than migration since it is normally a relatively stable component of population change, particularly when fertility is very low. It depends directly upon a state's birth rates (conveniently summed as the TFR) and death rates (frequently expressed as life expec-





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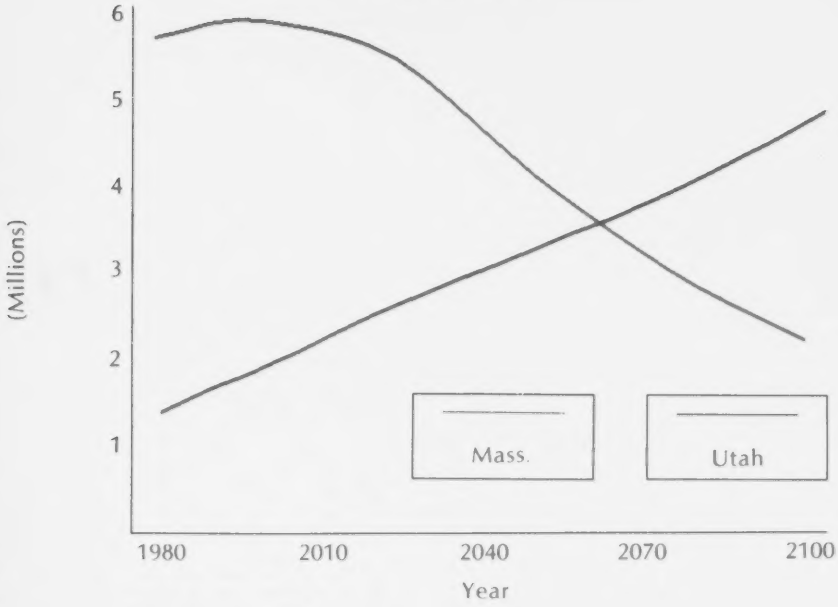
demographer at PRB

Projected Populations Massachusetts and Utah 1980-2100



tancy) *and* upon the age distribution of the population.

To say that both a state's fertility pattern and its life expectancy do not change rapidly is a relatively risk-free proposition. They certainly *could* change sharply, but rarely do. For the most part, major fertility swings appear to have run their course in the U.S. The U.S. has had a TFR of about 1.8 for 14 years; experience of other industrialized countries suggests that birth rates drop to some specific low level and then tend to stabilize at some new "norm" of family size. Another baby boom may be waiting in the wings, but few observers expect it. Finally, death rates, already quite low, rarely change quickly but creep downward at a very gradual rate.

The annual number of births and deaths derives from birth and death rates acting in concert with the state's age distribution. Thus, if a state has an unusual preponderance of elderly, the number of deaths will be proportionally larger, all things being equal. But the point here is that a state's birth and death rates and the pattern of its age distribution are relatively fixed factors, endemic to its demography. A state may be able to attract migrants (or repel them) by various means such as tax incentives for industry or moratoriums on housing permits, but can do little about the immediate population dynamics of its vital rates or age structure.

Bay State vs. Beehive State

To illustrate the powerful effects of these rates, let us compare two extreme examples of fertility. In 1980, Massachusetts had a TFR of 1.45 children per woman, less than half Utah's 3.22.[1] TFRs are published for states by the National Center for Health Statistics only for decennial census years.

Clearly, these two states have very different childbearing patterns. At about 1.5 children on average per woman, Massachusetts can soon expect a new development in its demography – natural decrease – while Utah is far from the replacement level of about 2 children per woman. What does this large differential bode for each state?

To answer that question, we merely need to run a standard population projection for each. To illustrate the effects of fertility only, an assumption of zero net migration will also be assumed. (This latter assumption is actually a rather close reflection of the situation. From 1980 to 1987, Massachusetts is estimated to have had a net outflow of only −49,000 and Utah only −2,000.)

The graph shows the rather dramatic effect that continued fertility at the 1980 level would have on the comparative population sizes of these two states. Assuming a TFR of 1.45, Massachusetts would see its annual number of deaths exceed births between 1995 and 2000. By 2010-2015, the state's rate of natural decrease would be −0.3, a mirror image of the present 0.3. By mid-century, the state's 1980 population of 5.7 million would have shrunk to 4.1 million and be declining at an annual rate of −1.3 percent per year, a rate at which it then stabilizes. Extending the concept of "doubling time," we could say that, at a growth rate of 1.3 percent, Massachusetts' "halving" time would be 53 years.

Not only would Massachusetts' population settle into a protracted period of decline, it would also quickly adopt the age structure of a population top-heavy with the aged. In 1980, 12.7 percent of the state's population was age 65 or over. By 2035, that figure would rise to 27 percent. The population pyramid shown for 2035 illustrates the inverted age structure of a declining population.

Meanwhile, Utah would experience a far different demographic future with its relatively high assumed fertility.

How high should we assume Utah's fertility will remain if it remains high at all? This has become a burning issue in the state since the TFR has actually dropped since 1980. By 1986, the TFR

Continued next page

A Tale of Two States

Continued from preceding page

was estimated to have decreased to 2.6 from the 1980 level of 3.2[2] The cause of the decrease is not known, but several factors such as the depressed condition of the state's energy and aerospace industries in addition to the increasing labor force participation of women are offered as possible explanations.

The present decrease in Utah's fertility is not unprecedented. During the 1970s, fertility also dropped, to a TFR of 2.8 in 1973. One must also consider that the intercensal rates are estimates, i.e., not based upon census count denominators.

For the projections shown in the graph, the assumption on fertility used follows the official state assumptions. The TFR is assumed to decrease to 2.5 by 1990 and thereafter remain stable. This assumption results in Utah's population climb past that of Massachusetts during the next century until it is more than twice the Bay State's.

The significance of these projections is simply that they are primarily concerned with fertility rather than migration. Such long-range projections obviously become quite iffy the further one looks to the future. Still, the assumption of continued below-replacement fertility for Massachusetts has many precedents. Official projections for many European countries and, more recently the U.S., assume just that. Perhaps fertility will rise to, or above replacement in Massachusetts, but what would cause it? And Utah, will its fertility remain well above replacement?

In the Future

These two states are used as examples here because they are U.S. extremes (in fact Massachusetts's fertility is lower than the Netherlands', while Utah's is higher than China's). But many others divide out as being either below/above replacement. States with a TFR below 1.7 include all of New England, New York, New Jersey, Pennsylvania, Maryland, Virginia, and North Carolina. The "high" fertility states, with a TFR above 2.2, include South Dakota, Mississippi, Idaho, Wyoming, New Mexico, and Alaska.

In the future, state fertility levels will likely be influenced by their shifting ethnic makeup. Thus states with growing proportions of Hispanics, many of them recent immigrants, can expect some upward pressure on their TFR.

In Utah, factors which operate elsewhere to influence the level of childbearing are joined by the role of the Mormon Church, since the Church's members comprise about 70 percent of the state's population. The Church does value large families and its influence may well maintain the state's fertility at a comparatively high level. Still, any increases in women's income would also increase the opportunity costs of having a child and may introduce a new aspect of the family formation process.

This exercise brings home an important lesson: Soon, many states will have to contend with declining, aging populations which result, not from migration, but from a more "structural" demographic factor – fertility. This would certainly seem to be good news for entry-level workers, bad news for state comptrollers who will be forced to contend with the needs of the aged on the one hand and a shrinking tax base on the other. Even today, labor force shortages plague some areas. It is no accident that companies in high-tech cities of New Hampshire are scrambling for workers and fast food chains that are paying more than twice the minimum wage.

The Utah-Massachusetts scenario may, in fact, not pan out at all. But it is quite possible that some states will see their populations age and decline while others never do. Fifty states, 50 population futures – an interesting and diverse prospect.

References

1. *Birth and Fertility Rates for the United States, 1980.* Data From the National Vital Statistics System Series 21, No. 42. The National Center for Health Statistics: Hyattsville, Md. Sept. 1984.

2. *Economic and Demographic Projections 1988,* Data Resources Section, Utah Office of Planning and Budget, Salt Lake City, April 1988.

Data Sheets From All Over

A bumper crop of population wallcharts are available from all over.

• PRB has just published French- and Spanish-language versions of its own *1988 World Population Data Sheet.*

Like the classic English-language original, the two new Data Sheets each contain basic demographic and economic data about the world's 5.128 billion people, broken down by 175 countries – some 3,000 statistical nuggets in all.

Copies of the *1988 World Population Data Sheet* in French, Spanish, and English can be ordered from the Population Reference Bureau, Inc., Circulation Dept. P.O. Box 96152, Washington, D.C. 20090-6152, with checks payable to PRB. Prices are $2.00 ea.; 2-10 $1.75 ea.; 11-50 $1.50 ea.; over 50, $1.25 ea. Orders for $50 or less must be prepaid and include $1.00 for postage and handling. Prices will increase Jan. 1, 1989.

Two entrants from other sources:

• The 1988 India Population Data Sheet, published by the Madras Communications Institute. This 24 × 18 inch sheet gives the most recent demographic data for all the States and Union Territories of India.

In India, contact: The Secretary, Madras Communications Institute, 230 21st East Street, Kamarag Nagar, Madras 600 041, India (price per data sheet: Rs.12 plus postage).

In the U.S., contact: Dr. S. B. Mani, 216, Kelly Blvd., Slippery Rock, Pa. 16057 (price per data sheet: $2.00, plus 50 cents postage for the first sheet, 35 cents for each additional sheet).

• The Alabama Population Data Sheet, published by the Center for Demographic and Cultural Research, Auburn University at Montgomery, and released April 1987. This data sheet gives demographic data and vital statistics for every county of Alabama from 1940 to 1990.

For copies, contact: Director, Center for Demographic and Cultural Research, Auburn University at Montgomery, Montgomery, Ala. 36193.

Drought, Flood And Food

During 1988, one drought struck North America on this side of the globe while on the opposite side, drought was devastating China's agriculture.

Other world regions were not affected or actually experienced bountiful harvests. India had a satisfactory year, for example, and agriculture in Equatorial Africa rebounded to some extent from the devastation of previous years. In September, literally millions were made homeless when Bangladesh was battered by severe flooding, due in large part to lack of ground. Nevertheless, losses greatly outpaced gains, and the drought of 1988 is likely to result in a gradual tightening world food situation.

Writing in the Sept./Oct. *World Watch* magazine, agricultural specialist Lester R. Brown, Director of the Washington-based Worldwatch Institute, describes how world land area devoted to grain expanded 21 percent between 1950 and 1981 and since 1981 has fallen 7 percent. This 1980s decline he attributes to the abandonment of severely eroded land and the diversion of cropland to nonfarm uses.

Consequently, growth in food production in at least Africa and Latin America is falling behind population growth. Latin America's grain output per person reached a high in 1981.

Since 1967, when African grain output per person peaked, it has fallen about 15 percent. And spring rains in the parched Sahel region, besides helping crops to flourish, have also stimulated the greatest locust infestation in decades. Feeding on the renewed vegetation, locust swarms are sweeping across Mauritania, Mali, Niger, Chad, the Sudan, and Ethiopia.

The U.S. Agency for International Development's Famine Early Warning System, which monitors growing conditions in the Sahelian zone, foresees generally good growing conditions for the coming season, though food availability may be poor in northern Mali. A combination of factors in the Sudan, including flooding, could lead to a poor harvest in 1989 that would be disastrous for that country's already tenuous agricultural economy.

—A.H.

SOFTWHERE

TIGER is the U.S. Census Bureau's epic computerized map of the entire U.S., broken down into coordinates of political boundaries, census tracts and blocks, and physical features such as roads, rivers, power lines, etc. It is being prepared to facilitate data collection and analysis during the upcoming 1990 Census. (TIGER, by the way, stands for Topologically Integrated Geographic Encoding and Referencing.)

If you want to know more about TIGER, you can obtain a prototype sample right now. A TIGER/Line file for Boone County, Mo., (which includes Columbia, Mo.) is available from the Census Bureau in two formats: A single reel of tape (1600 or 6250 bpi) in either EBCDIC or ASCII for (price $175), including technical documentation; or one high density 5¼-inch flexible diskette for IBM ATs or compatibles (price $60).

During the first quarter of 1989, the Census Bureau will release a precensus edition of TIGER/Line covering the entire U.S.

To order or obtain further information about TIGER/Line contact the Census Bureau's customer service at (301) 763-4100.

—A.H.

POPULATION UPDATE

Estimated United States Population:

As of July 1, 1988	246,113,000
As of July 1, 1987	243,915,000

The above estimates include armed forces overseas and are from U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 1029.

Estimated World Population:

As of November 1988	5,158,000,000
Annual growth	89,000,000

Estimated by extrapolation from the mid-1988 population on PRB's *World Population Data Sheet*.

Latest Provisional Statistics for the U.S.: June 1988

	12 months ending with June					
	Number		Rate			
Item	1988	1987	1988	1987	1986	1985
Live births	3,853,000	3,765,000	15.8	15.5	15.6	15.8
Deaths	2,168,000	2,103,000	8.9	8.7	8.7	8.8
Natural increase	1,685,000	1,662,000	6.9	6.8	6.9	7.0
Marriages	2,367,000	2,446,000	9.7	10.1	10.0	10.3
Divorces	1,158,000	1,167,000	4.7	4.8	4.9	4.9
Infant deaths	38,200	38,100	9.9	10.1	10.5	10.6
Population base (in millions)			244.5	242.2	239.9	237.3

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births.

Source. Monthly Vital Statistics Report (Vol. 37, No. 6) from the National Center for Health Statistics.

TAKE A NUMBER

Metro Areas On the Rise: The Census Bureau has released its estimates of the population of metropolitan areas for 1987. During the 1980s, metro areas at twice the rate of nonmetro counties, reversing the pattern of the 1970s. The Washington, D.C. Metropolitan Statistical Area (MSA) regained the ninth position in size from the Houston Consolidated MSA (CMSA) which saw its population decrease as a result of the current misfortunes of the oil industry. The rapid growth of the metro areas of the Sunbelt is illustrated by the Los Angeles CMSA: from 1980 to 1987, about one-eigth of U.S. population growth was in the L.A. metro area alone. Other fast growers: Orlando, Fla. grew by 34 percent since 1980, rising to 935,000 in 1987; Naples, Ocala, Fort Myers-Cape Coral, and Fort Pierce, Fla., along with Austin, Tex., were the five fastest growers in terms of percent. Those metro areas grew from 38 to 49 percent in just seven years. Another notable example of rapid growth is the Dallas-Fort Worth CMSA, which grew to 3.7 million, adding 794,000 people since 1980. A new MSA, Decatur, Ala. brought the total number to 282 (counting MSAs and CMSAs). In 1987, nearly one-half of the country's population lived in metro areas of 1 million or more, up from about one-fourth in 1950.

Here and There: . . . The U.S. infant mortality rate dropped below 10 deaths per 1,000 live births for the most recent 12-month period reported (ending June 1988). It did so once before, back in November 1987 . . . the *International Herald Tribune* reports that Indian health officials have become alarmed at the lack of progress in a continuing reduction in the birth rate . . . in Japan, the proportion of children under 14 has dropped below 20 percent, a first . . . a contraceptive prevalence survey is planned in Vietnam with fieldwork to have begun by May 1988 . . . Mondays through Fridays account for an increasing proportion of U.S. births as the use of caesarian section rises (24 percent of all births in 1986), according to the National Center for Health Statistics; Tuesday was the leader: each Tuesday during 1986 saw an average of 11,221 births. Sundays were the least frequent with 8,507 . . . in Fiscal Year 1987, legal immigration to the U.S. totaled 601,516, according to the Immigration and Naturalization service, virtually the same as in FY 1986.

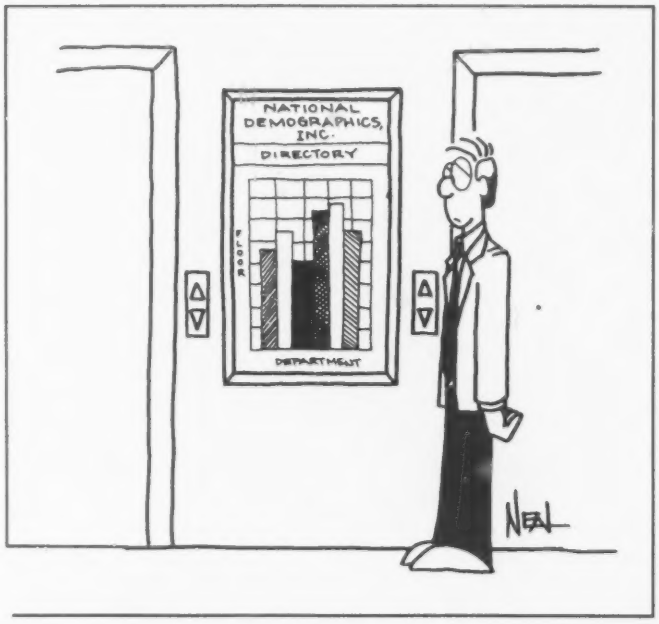
—C.H.

POSITIONS/ PROFESSIONALS

The Center on Population, Gender, and Social Inequality was established at the University of Maryland in September 1988. Center activities include training and research in demography with a special focus on gender and social inequality. Harriet B. Presser is the Center's first director.

Funds are available for graduate assistantships at the Center, within the Dept. of Sociology at the M.A. and PhD. levels. Interested applicants should contact: Director of Graduate Studies, Dept. of Sociology, Univ. of Maryland, College Park, Md. 20742.

ADDENDA



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CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in Current Readings. Publishers may address review copies to Book Review Editor, POPULATION TODAY, Population Reference Bureau, 777 14th St., N.W., Washington, D.C. 20005.

MEDICAL GEOGRAPHY, by Melinda Meade, John Florin, and Wilbert Gesler. New York: Guilford Press, 1988. 340 pages. $35.00 ISBN 0-89862-781-8.

The health of a population results from the interaction of the people, their environment, and their beliefs and behavior. This excellent text describes each element of the population-habitat-culture triad independently and interdependently in illustrating how medical geography explains the distribution of health and disease and identifies efficient ways to intervene. There are very clear presentations of the concepts and measures of demography and their uses.

Case histories are wide ranging and include the grim "Columbian Exchange" of diseases after Columbus's first voyage, in which the Old World traded malaria, cholera, smallpox, and other diseases to the New World, and received the New World's gift of syphilis in return; studies from both developing and developed countries of shifting disease vectors and susceptibilities as land use and settlement patterns change; and disease diffusion in terms of the relationship between community size and the regularity of epidemics of measles in Iceland and England in the 1970s.

John Snow's dot map of London cholera victims in 1854 showed that the Broad Street pump was responsible for the outbreak of the disease and, since the epidemic ceased when the pump was shut, that cholera was waterborne. Today we have atlases of mortality from different cancers and attempt to determine why more people develop a certain cancer at a particular location than elsewhere. We have also learned that infant mortality, suicide, and homicide often increase as the unemployment rate goes up. The work of medical geography – and vital population dynamics – is well, and interestingly, explained here.

– Roberta Yared

THE CIRCUMCISION OF WOMEN: A Strategy for Eradication, by Olayinka Koso-Thomas. London and Atlantic Highlands, N.J.: Zed Books, 1987. 109 pages. ISBN 0-86232-701-6

A sense of horror is evoked by this excellent review of the facts, the extent, the variations, and health outcomes of female circumcision. Luckily, the author, a female physician in Sierra Leone, West Africa, offers some reassurance by her subtitle, *A Strategy for Eradication*. More than half of the book is dedicated to this 20-year program which involves research, massive education and communication campaigns, retraining of health personnel and refocused health services, heavy and well-coordinated donor aid, and concentric circles of political support.

Ironically, proponents of female circumcision maintain that the practice achieves high standards in just those areas where it does the opposite. Dr. Koso-Thomas grouped these reasons in 10 categories: 1) maintenance of cleanliness; 2) pursuance of aesthetics; 3) prevention of still births; 4) promotion of social and political cohesion; 5) prevention of promiscuity (controlling "excess" female sexuality); 6) improvement of male sexual performance and pleasure; 7) increase of matrimonial opportunities; 8) maintenance of good health; 9) preservation of virginity; and 10) enhancement of fertility.

Another irony is that women themselves often defend the practice as an essential initiation to true membership in a group, and will ostracize those who dare to defy custom. (Yet, years later, those unfortunates suffering the worst consequences of this "surgery" are also ostracized due to unpleasant aspects of their chronic pelvic disease.) Dr. Koso-Thomas gives hope by pointing out that elsewhere, such customs as the burning of widows in India, the binding of the feet of Chinese women, and the burying alive of female infants, once practiced by Arab women, have ended. This is hopeful, yet the fact that such practices were common and that female circumcision is still common leads one to conclude that in Africa, at least, it is a dangerous thing to be born a girl.

What is the solution? One Somalian specialist has suggested that the circumcision ritual could be modified, if trying to halt it is still too revolutionary an idea. She believes that one could retain the sense of identity and belonging conferred by such rites of passage through a ceremony in which a girl is symbolically circumcised – perhaps by a slight nick of the clitoris. A survey of 300 women in Sierra Leone showed that some were ready to reexamine and modify the procedure in light of their new understanding of the health consequences.

Clearly, there is a lot of work to be done. Dr. Koso-Thomas acknowledges the work of Fran Hosken and of Gordon Wallace and the staff of the Population Crisis Committee in Washington, D.C., as well as others for their pioneering efforts to stop the mutilation of women. Dr. Koso-Thomas' name also belongs to the list of people who care and work for this important aspect of women's liberation.

– Elaine Murphy

SPOTLIGHT

RWANDA

Population (mid-1988 est.): 7.1 million
Land area: 10,170 sq. miles
Births per 1,000 pop.: 53
Deaths per 1,000 pop.: 16
Rate of natural increase: 3.7 percent
Total fertility rate: 8.6 children per woman
Infant mortality rate: 122 infant deaths per 1,000 live births
Life expectancy at birth: 49 years
GNP per capita (1986 est.): US $290
Capital: Kigali

by John F. May

The population of Rwanda is fairly evenly distributed over a mountainous territory about the size of Maryland, in the Great Lakes region of East Africa. The 1978 Census and the nationwide fertility survey of 1983 provide important information on the demographic patterns and trends of this small landlocked country. Nearly 50 percent of Rwandans are less than 15 years old and 94 percent live in the rural areas. The population is divided among various ethnic groups: the Hutus (85 percent), who have the greatest involvement in political affairs, the Tutsis (14 percent), and the Twas (1 percent). The population density is about 700 persons per square mile, the highest in Sub-Saharan Africa.

The rate of natural increase is very high, even by African standards. Despite a recent outburst of malaria, mortality – especially infant mortality – continues to decline. Unlike mortality, fertility has not yet started to decline. On the contrary, the disruption of traditional breastfeeding patterns boosts the total fertility rate. Moreover, the postpartum taboo is virtually unknown in Rwanda and only 2 percent of women aged 15-49 at risk use modern contraceptive methods. As a consequence of the mortality and fertility trends, Rwanda might soon experience the highest population growth rate in the world.

All cultivable land has been used, exhausting agricultural capacity. Unless fertility starts to decline, Rwandans might soon have to migrate abroad; this has already occurred in the past (e.g. to the Kivu region in Zaire). If at all feasible, massive external migration movements would inevitably cause problems with neighboring countries. Further complicating the issue, Rwanda has received tens of thousands of refugees from neighboring countries, most recently from Burundi.

The government of Rwanda is fully aware of the major threat population growth is posing to the development of the country. President Juvenal Habyarimana has repeatedly addressed this theme in his public speeches and in 1981 established the National Office of Population (ONAPO) to tackle the population issue. Since its creation, ONAPO has successfully sensitized the Rwandan population about the need to adopt family planning, but thus far the provision of modern services has not reached more than a token proportion of women in union.

The Catholic Church hierarchy has also acknowledged the urgency of advocating responsible parenthood in Rwanda, but wishes to promote only natural family planning methods to achieve this goal. This could affect fast implementation of an effective family planning program in Rwanda, especially since the Catholic Church operates about half of all medical facilities in the country.

Traditional economic resources, such as the production of bananas, coffee and cattle, in addition to some mineral exports, small tourism-related activities, and a meager modern sector, will have to support the quickly growing population of Rwanda. This is then likely to require the continuation of large assistance transfers from foreign donors, including Belgium, the former colonial power. Nevertheless, scarce developmental resources might soon have to be used to address another imminent crisis in Rwanda, namely the spread of Acquired Immune Deficiency Syndrome (AIDS), primarily among the 6 percent of the population that is urban.

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